

PROCEEDINGS OF THE CLUB *

MAY 12, 1908

The Club met at the American Museum of Natural History at 8:30 o'clock. In the absence of the President and both Vice-Presidents, Dr. N. L. Britton was called to the chair. Sixty-five persons were in attendance.

After the reading and approval of the minutes for April 29, 1908, the Club listened to a very interesting lecture on "Wild Flowers of Spring," by Dr. N. L. Britton. The lecture was illustrated by lantern slides made by Mrs. Cornelius Van Brunt, illustrating in natural colors the flowers of the local spring-blooming plants.

Adjournment was at 9:30 o'clock.

C. STUART GAGER,
Secretary.

OF INTEREST TO TEACHERS

The sixth question of the list given in the March TORREYA was discussed in the April issue; below are other letters of interest which bear upon the same question: Why does not the study of high school botany more often create a lasting interest? Would this be secured by more emphasis on morphology, including classification?

I

The popularity of such books as How to Know the Wild Flowers and the many guides to trees, ferns, etc., shows very plainly the trend of common interest in the subject. I cannot at this moment think of one popular guide to experiments with plants such as we find for physics or chemistry.

Plant study presents itself to me in three important phases; in the first the plant may be viewed as a living organism whose structure and activities may be studied from about the same standpoint as that of the animal (human) body. Beyond general facts this study will be pursued by few other than specialists. We shall take the facts as we find them (about as we do those of

* The proceedings for April 29 will be given in the July number.

human physiology) and expect the specialists to set us right from time to time.

Another phase which seems to me important is a knowledge of plants as national resources — their relation to great human interests. The forest service and agricultural work keep us in touch with this.

The other side is the study of our own plants — their variety and beauty as we find them. If this is carried on out of doors — as most of it should be — and sufficiently to make children really intelligent — the interest ought to be lasting because this is an accessible field for study. It seems to me that more guides and keys would greatly aid in this work.

ANNA CLARK.

THE NEW YORK
TRAINING SCHOOL FOR TEACHERS.

II

If it is not too late, I should like to enter the discussion of the interesting topic presented in your Teacher's Department in April. Your question, "Why does not the study of botany more often create a lasting interest?" suggests that somehow botany is inferior to other subjects in establishing permanent interest in high school pupils. I know that this is the prevailing opinion regarding science subjects in general, and the biological in particular; but my observations lead me to disagree with it decidedly. I think your question might be fairly answered by asking a similar one, namely, why do not secondary school subjects in general more often create a lasting interest in the minds of pupils? I do not mean to say that I think there is no possibility for improvement in botany and other subjects, so far as arousing interest is concerned; but I am inclined to think that we sometimes expect too much when we look at botany in the secondary school from the standpoint of our experience as professional biologists. We must sooner or later begin to recognize the fact that a large proportion of people are not and probably cannot be prepared to view the world through the eyes of the naturalist, and hence I think it is not to be expected that a very large proportion of

pupils should gain from the high school study of botany an abiding and enthusiastic interest in the subject. For my part, I am very much more interested in the question whether high school botany so influences the mental habits and outlook of pupils that by this study they are made citizens of more general culture and ability ; and the question whether or not they remain enthusiastic students of botany as such seems to me to be one of decidedly minor importance. As an illustration, I look back upon my own high school work in languages and mathematics as the most profitable work in my preparation for college, and yet if my present interest in these subjects is to be judged by the amount of time which I have given to them in the last ten years I think I might reasonably ask why did not my high school studies of languages and mathematics create a more lasting interest ? The question of apparent interest is largely determined by the future application, and it has happened that I have had no particular demand for direct application of my high school Latin and Greek and mathematics. However, I can trace quite definitely in my own mind the valuable influence of such study upon my college and later work and hence I feel satisfied that the general educational value of the languages and mathematics study in the high school was a sufficient justification of their presence in the curriculum. I am forced to apply the same line of reasoning to science in the high school, and hence I fail to see that we can judge the value of a high school course on the basis of the pupils' lasting interest in the subject-matter of the sciences studied.

M. A. BIGELOW.

TEACHERS COLLEGE, COLUMBIA UNIVERSITY.

III

Before attempting to answer the question why the study of botany in the high school does not more often create a lasting interest in the subject, it may be pointed out that no other high school subject is better circumstanced in this respect. In fact, if we compare the interest taken in botany, aside from any money there may be in it, with similar interests in chemistry, physics, geology, or zoölogy as a whole, we shall find that botany is far in the lead.

The question, then, looked at from a different angle, reads "How can the lead which botany has over other studies be increased?" For the purposes of our inquiry we may divide all who are interested in botanical pursuits into two groups—the botanists and the botanizers. The botanist I would define as a person interested in the science of botany, the botanizer as one interested in plants without much interest in or regard for the science. It requires a peculiar type for the botanist. He must have an inquiring turn of mind, a love of study, a respect and regard for knowledge and an irresistible persistence in delving into the secrets of nature. It may be doubted whether this type of mind can be developed by any sort of schooling in individuals in whom it is not latent. This is why your good botanical pupil ceases to be interested as soon as the course is finished and also why some individuals with few or no advantages force their way to the front. The latter are botanists, born; the others are not. Occasionally the schools succeed in making a good imitation botanist, but the spurious article is easily detected.

The botanizer has but a passing interest in the studies of the botanist. He is attracted to botany by the love of beauty and the joys of discovery. The bright hues, pleasant perfumes, and varied forms of the flowers appeal to his senses and incline him to make a collection, while his wanderings afield are principally to find a new flower, a flower newly in bloom, a plant in a new place, or a new combination of plants. The spirit of discovery animates both botanist and botanizer, but each applies it in a different way. The botanizer asks for the name of a new flower, where it grows, when it blooms and what it is good for, but he is seldom interested in its marvellous devices for pollination or seed-dispersal and mere weeds do not attract him unless they have showy flowers.

There seems to be very little change needed in high school courses designed for the education of the botanist. With almost any kind of a start he may be depended upon to take care of himself, but if we are to cultivate the botanizer—and there is an immense number of his kind—very radical changes must be made. We seldom realize how many people there are interested

in plant life without making pretensions to being botanists. Four hundred and ten thousand are on the subscription lists of Park's *Floral Magazine*—a publication that doubtless the majority of botanists never heard of, though it is one of the oldest of our botanical publications. One hundred and seventy-five thousand subscribe to Vick's, *Floral Life* has 100,000 more and the *Garden* magazine has 50,000. If we should include publications devoted to farming and gardening still more astonishing figures could be secured.

I am convinced that this is the side of botany that high schools will find most worth while to cultivate. It can be, and is being, advanced by means of school gardens, horticultural and floricultural courses, courses in structural botany and studies in the flora of the surrounding region.

The reason for lack of apparent interest in college is not difficult to find. Since the motto of the present generation is money first and culture afterward, botany, which can offer no such lucrative inducements for its study as can the mechanical and physical sciences, is naturally passed by. The intelligent person, however, who realizes that making a living and enjoying a living are two different things, will continue to take up botany and every wise teacher will encourage him to do so by every means in his power.

WILLARD N. CLUTE.

JOLIET HIGH SCHOOL,
JOLIET, ILLINOIS.

The Museums Journal of Great Britain for March contains an article by G. A. Dunlop which describes "Drying Plants without Pressure" by the use of fine sand or boxwood sawdust, the latter material preserving many of the natural colors and much of the texture of flowers and leaves.

Seven of the "Tabulae Botanicae" by the Berlin publishers, Gebrüder Bornträger have been completed. The charts are large, with clear, accurate figures, and helpful text printed in German, French, and English. The figures are not the ones so commonly used in text-books. One chart illustrates stomata; the others are devoted to the moulds and the myxomycetes.

Among the papers included in the Annual Report of the Director of Botanical Research in the Carnegie Institution (Dr. D. T. MacDougal) for 1907 are "The Advance and Recession of Vegetation in the depressed Basins of the Colorado Delta," "Acclimatization," "Distribution and Movements of Desert Plants," "The Topography of Chlorophyll Apparatus," "Physiology of Stomata," "Evaporation and Plant Distribution," and "The Relation of Evaporation to Plant Activity."

The New York *Tribune* prints a timely remonstrance on its editorial page: "Arbor Day, more suitable in this region for the cultivation of aquatic plants by amphibians than anything else, is past and gone. It would be interesting to know whether it saw more trees planted or destroyed. For while school children and others were busy with spade and shovel the trolley folk and electric linemen were also active, and the work of wires already strung in chafing and burning and mutilating trees by the roadside went steadily on." It may seem futile to add one more thing to the rapidly expanding school curriculum, but an Arbor Day that does not include the phase of tree preservation suggested by the *Tribune* falls far short of the needs of to-day.

G. P. Putnam's Sons have recently published "The Alpine Flora of the Canadian Rockies" by Stewardson Brown and Mrs. Chas. Schaeffer. Dr. Brown is responsible for the text and Mrs. Schaeffer for the unusually fine colored illustrations which have been prepared from her photographs and water color paintings. The book is designed to meet the needs of tourists in the Canadian Rockies and is therefore popular rather than purely scientific in its character. Although our imperfect knowledge of the flora of the Canadian Rockies makes impossible at this date a complete flora of that region, a catalogue of distinct value to the botanist was published last fall by the University of Pennsylvania under the title "Contributions to a Catalogue of the Flora of the Canadian Rocky Mountains and the Selkirk Range" by Edith M. Farr.

CAROLINE ROMER.